



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,814	12/29/2003	Hiroshi Higashiyama	03788 /LH	7189

1933 7590 04/05/2005

FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
767 THIRD AVENUE  
25TH FLOOR  
NEW YORK, NY 10017-2023

EXAMINER

SA WHNEY, HARGOBIND S

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/748,814

Applicant(s)

HIGASHIYAMA, HIROSHI

Examiner

Hargobind S. Sawhney

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/29/03</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hooker et al. (US Patent No.: 5,477,422).

Regarding Claims 1-4, Hooker et al. ('422) discloses a surface-shaped light irradiation device (Figures 1 and 2) comprising:

- a dot light source 3 emitting light substantially radiately (Figures 1 and 2, column 2, lines 61-63);
- a light guiding plate 2 including: a light entrance end surface adjacent the dot light source 3 (Figures 1 and 2, column 2, lines 61-67); the light – emitting surface guiding and uniformly emitting the light entering from the light entrance end surface (Figures 1 and 2, column 2, lines 59-61), and a back surface opposite the light –emitting surface (Figures 1 and 2, column 3, lines 1-5);
- a retaining section – defined by elements 4 (Figure 1) – housing the dot light source 3 (Figures 1 and 2, column 2, lines 65-67);

- the retaining section formed on the light entrance end surface (Figures 1 and 2), and the retaining section including a cave portion – an open-ended recess – receiving the dot light source 3 (Figures 1 and 2);
- the retaining section formed on the light entrance end surface, positioned at the end of the light guiding plate 2 (Figures 1 and 2), and the retaining section additionally including walls 4 surrounding the dot light source 3 (Figures 1 and 2, column 2, lines 65-67); and
- the retaining section formed integrally with the light guiding plate 2 (Figures 1 and 2); and the retaining section extending from the light entrance end surface (Figures 1 and 2).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hooker et al. (US Patent No.: 5,477,422) in view of Lammers (US Patent No.: 6,672,734 B2).

Hooker et al. ('422) discloses a surface-shaped light irradiation device (Figures 1 and 2) comprising dot light source including a flat light emitting surface emitting light

toward a part of an external surface, and the dot light source being received in a retaining section.

However, Hooker et al. ('422) does not specifically teach the dot light source having its light-emitting surface abutting the light entrance surface of the light guiding plate.

On the other hand, Lammers ('734 B2) discloses an illumination system including a dot light source having its light emitting surface abutting the light entrance surface of the light guiding plate column 1, lines 55-64).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the surface-shaped light irradiation device of Hooker et al. ('422) by positioning the light source with its light emitting surface abutting the light entrance end surface of the light guiding plate as taught by Lammers ('734 B2) for the benefits and advantages incidence of the light source with less losses, and efficient spreads in the light guide plate.

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hooker et al. (US Patent No.: 5,477,422) in view of Lammers (US Patent No.: 6,672,734 B2) as applied to Claim 5 above, and further in view of Aoyagi et al. (US Patent No.: 6,825,894 B2).

Regarding Claim 6, Hooker et al. ('422) in view of Lammers ('734 B2) teaches the surface-shaped light irradiation device including a retaining section receiving a dot light source abutted to the entrance end surface of a light guiding plate. However, neither combined nor individual teaching of Hooker et al. ('422) and Lammers ('734 B2)

specifically teaches the dot light source being fixed in the retaining section with an adhesive agent.

On the other hand, Aoyagi et al. ('894 B2) discloses a liquid crystal display (LCD) system (Figure 1) comprising a dot light source 8 operationally coupled to a light guiding plate 4 (Figure 1, column 8, lines 4-8). In addition, Aoyagi et al. ('894 B2) teaches the use of two-sided adhesive tape as fixing means for attaching each of the constituent elements of the LCD system (Figures 1 and 3, column 9, lines 1-7).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to further modify the surface-shaped light irradiation device of Hooker et al. ('422) in view of Lammers ('734 B2) by providing an adhesive agent as fixing means for mounting the dot light source as taught by Aoyagi et al. ('894 B2) for the benefits of mounting the light source in secured manner.

Regarding Claim 7, Hooker et al. ('422) in view of Lammers ('734 B2) and Aoyagi et al. ('894 B2) teaches the surface-shaped light irradiation device (Hooker, Figures 1 and 2) further comprising:

- the retaining section 4 including a wall – the light guide extensions on both sides of the dot light source 3 – protruding from the light entrance end surface positioned at the end of the light guiding plate a light guiding plate 2 (Figures 1 and 2, column 2, lines 61-67).

6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hooker et al. (US Patent No.: 5,477,422) in view of (US Patent No.: 6,672,734 B2) in view of Aoyagi et al. (US Patent No.: 6,825,894 B2).

Regarding Claim 8, Hooker et al. ('422) discloses a surface-shaped light irradiation device (Figures 1 and 2) comprising dot light source mounted on a circuit board, and the circuit board further supporting the light guiding plate. However, Hooker et al. ('422) does not specifically teach the circuit board being a flexible circuit board, and a portion of the flexible circuit board being adhered to a back of the light guiding plate by an adhesive member.

On the other hand, Aoyagi et al. ('894 B2) discloses a liquid crystal display (LCD) system (Figure 1) comprising:

- a flexible circuit board 5 bearing dot light source 8, and a portion of the flexible circuit board attached to the back surface of the light guiding plate 4 (Figure 1, column 8, lines 4-8, and column 9, lines 1-7).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to further modify the surface-shaped light irradiation device of Hooker et al. ('422) by providing:

- the flexible circuit board bearing dot light source as taught by Aoyagi et al. ('894 B2) for the benefits of providing electrical connections between the printed circuit board and the LCD display panel with minimum possible parts; and
- the flexible circuit board having is portion attached to the back surface of the light guiding plate with an adhesive element as taught by Aoyagi et al. ('894 B2) for the benefits of mounting the light source in structurally stable manner.

Regarding Claim 9, Hooker et al. ('422) in view of Aoyagi et al. ('894 B2) discloses the surface-shaped light irradiation device (Hooker, Figures 1 and 2) further comprising the adhesive element being a both-surface adhesive tape (Aoyagi, Figure 1, column 8, lines 4-8, and column 9, lines 1-7).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Flohr et al. (U.S. Patent No. 6,709,123 B2 B1), Hirayama (U.S. Patent No. 6,530,670 B2), Miller (U.S. Patent No. 6,315,440 B1), Stoh (U.S. Patent Application Pub. No.: US 2001/0019380 A1), Ishihara et al. (U.S. Patent Application Pub. No.: US 2001/0003504 A1), Mizobe (U.S. Patent No. 5,249,104), Lang (U.S. Patent No. 4,714,983) and Pulles (U.S. Patent No. 3,892,959)

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 6:15 - 2:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571 272 2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent



Art Unit: 2875

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HSS  
3/30/05

  
Stephen Husar  
Primary Examiner